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Reviewer: Durreshwar Anjum

Timestamp: Tue May 22 12:23:54 EDT 2007

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Application No: 10588379 Version No: 1.0

Input Set:

Output Set:

Started: 2007-05-22 12:08:20.174

Finished: 2007-05-22 12:08:20.832

Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 658 ms

Total Warnings: 0

Total Errors: 0

No. of SeqIDs Defined: 17

Actual SeqID Count: 17

<110> EKSTROM, Tomas J. et al.

<130> 2836-0163PUS1

<141> 2007-05-22

<151> 2006-08-02

<170> PatentIn version 3.4

<212> PRT

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Ser Ala Gly Asp Ala Ala Val Val Met Thr Ser Ala Gln Ile Thr Met
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Gly Met Pro Tyr Ala Val Thr Asp Ala Val Leu Ala Pro His Ile Gly
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Gly Glu Ala Gly Ser Ser His Ala Pro Pro Pro Ala Leu Thr Leu Ile
145 150 155 160

Phe Asp Arg His Pro Ile Ala Ala Leu Leu Cys Tyr Pro Ala Ala Arg
165 170 175

Tyr Leu Met Gly Ser Met Thr Pro Gln Ala Val Leu Ala Phe Val Ala
180 185 190

Leu Ile Pro Pro Thr Leu Pro Gly Thr Asn Ile Val Leu Gly Ala Leu
195 200 205

Pro Glu Asp Arg His Ile Asp Arg Leu Ala Lys Arg Gln Arg Pro Gly
210 215 220

Glu Arg Leu Asp Leu Ala Met Leu Ala Ala Ile Arg Arg Val Tyr Gly
225 230 235 240

Leu Leu Ala Asn Thr Val Arg Tyr Leu Gln Cys Gly Gly Ser Trp Arg
245 250 255

Glu Asp Trp Gly Gln Leu Ser Gly Thr Ala Val Pro Pro Gln Gly Ala
260 265 270

Glu Pro Gln Ser Asn Ala Gly Pro Arg Pro His Ile Gly Asp Thr Leu
275 280 285

Phe Thr Leu Phe Arg Ala Pro Glu Leu Leu Ala Pro Asn Gly Asp Leu
290 295 300

Tyr Asn Val Phe Ala Trp Ala Leu Asp Val Leu Ala Lys Arg Leu Arg
305 310 315 320

Ser Met His Val Phe Ile Leu Asp Tyr Asp Gln Ser Pro Ala Gly Cys
325 330 335

Arg Asp Ala Leu Leu Gln Leu Thr Ser Gly Met Val Gln Thr His Val
340 345 350

Thr Thr Pro Gly Ser Ile Pro Thr Ile Cys Asp Leu Ala Arg Thr Phe

355

360

365

Ala Arg Glu Met Gly Glu Ala Asn
 370 375

<210> 2

<211> 250

<212> PRT

<213> *Drosophila melanogaster*

<400> 2

Met Ala Glu Ala Ala Ser Cys Ala Arg Lys Gly Thr Lys Tyr Ala Glu
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Gly Thr Gln Pro Phe Thr Val Leu Ile Glu Gly Asn Ile Gly Ser Gly
 20 25 30

Lys Thr Thr Tyr Leu Asn His Phe Glu Lys Tyr Lys Asn Asp Ile Cys
 35 40 45

Leu Leu Thr Glu Pro Val Glu Lys Trp Arg Asn Val Asn Gly Val Asn
 50 55 60

Leu Leu Glu Leu Met Tyr Lys Asp Pro Lys Lys Trp Ala Met Pro Phe
 65 70 75 80

Gln Ser Tyr Val Thr Leu Thr Met Leu Gln Ser His Thr Ala Pro Thr
 85 90 95

Asn Lys Lys Leu Lys Ile Met Glu Arg Ser Ile Phe Ser Ala Arg Tyr
 100 105 110

Cys Phe Val Glu Asn Met Arg Arg Asn Gly Ser Leu Glu Gln Gly Met
 115 120 125

Tyr Asn Thr Leu Glu Glu Trp Tyr Lys Phe Ile Glu Glu Ser Ile His
 130 135 140

Val Gln Ala Asp Leu Ile Ile Tyr Leu Arg Thr Ser Pro Glu Val Ala
 145 150 155 160

Tyr Glu Arg Ile Arg Gln Arg Ala Arg Ser Glu Glu Ser Cys Val Pro
 165 170 175

Leu Lys Tyr Leu Gln Glu Leu His Glu Leu His Glu Asp Trp Leu Ile
 180 185 190

His Gln Arg Arg Pro Gln Ser Cys Lys Val Leu Val Leu Asp Ala Asp
 195 200 205

Leu Asn Leu Glu Asn Ile Gly Thr Glu Tyr Gln Arg Ser Glu Ser Ser
 210 215 220

Ile Phe Asp Ala Ile Ser Ser Asn Gln Gln Pro Ser Pro Val Leu Val
 225 230 235 240

Ser Pro Ser Lys Arg Gln Arg Val Ala Arg
 245 250

<210> 3
 <211> 234
 <212> PRT
 <213> Lycopersicon esculentum

<400> 3

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Ser Lys Asn Ser Phe Cys Pro Val Gly Glu Ile His Val Ile Val Gly
 20 25 30

Pro Met Phe Ala Gly Lys Thr Thr Ala Leu Leu Arg Arg Val Asn Leu
 35 40 45

Glu Ser Asn Asp Gly Arg Asn Val Val Leu Ile Lys Ser Ser Lys Asp
 50 55 60

Ala Arg Tyr Ala Val Asp Ala Val Val Thr His Asp Gly Thr Arg Phe
 65 70 75 80

Pro Cys Trp Ser Leu Pro Asp Leu Ser Ser Phe Lys Gln Arg Phe Gly
 85 90 95

Lys Asp Ala Tyr Glu Lys Val Asp Val Ile Gly Ile Asp Glu Ala Gln
 100 105 110

Phe Phe Gly Asp Leu Tyr Glu Phe Cys Cys Asn Ala Ala Asp Phe Asp

115

120

125

Gly Lys Ile Ile Val Val Ala Gly Leu Asp Gly Asp Tyr Leu Arg Lys
 130 135 140

Ser Phe Gly Ser Val Leu Asp Ile Ile Pro Leu Ala Asp Thr Val Thr
 145 150 155 160

Lys Leu Thr Ala Arg Cys Glu Leu Cys Asn Arg Arg Ala Phe Phe Thr
 165 170 175

Phe Arg Lys Thr Asn Glu Thr Glu Thr Glu Leu Ile Gly Gly Ala Asp
 180 185 190

Ile Tyr Met Pro Val Cys Arg Gln His Tyr Val Asn Gly Gln Ser Val
 195 200 205

Asn Glu Ser Ala Lys Met Val Leu Glu Ser His Lys Val Ser Asn Glu
 210 215 220

Leu Ile Leu Glu Ser Pro Leu Val Asp Pro
 225 230

<210> 4

<211> 361

<212> PRT

<213> Arabidopsis thaliana

<400> 4

Met Val Asp Tyr Leu Arg Ser Ser Val Gly Ile Ile His Arg Asn His
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Ala Glu Ser Ile Thr Thr Phe Ile Lys Glu Ser Val Asp Asp Glu Leu
 20 25 30

Lys Asp Ser Gly Pro Glu Pro Asn Leu Asn Val Lys Lys Arg Leu Thr
 35 40 45

Phe Cys Val Glu Gly Asn Ile Ser Val Gly Lys Ser Thr Phe Leu Gln
 50 55 60

Arg Ile Ala Asn Glu Thr Val Glu Leu Gln Asp Leu Val Glu Ile Val
 65 70 75 80

Pro	Glu	Pro	Val	Asp	Lys	Trp	Gln	Asp	Val	Gly	Pro	Asp	His	Phe	Asn	85	90	95
Ile	Leu	Asp	Ala	Phe	Tyr	Ser	Glu	Pro	Gln	Arg	Tyr	Ala	Tyr	Thr	Phe	100	105	110
Gln	Asn	Tyr	Val	Phe	Val	Thr	Arg	Leu	Met	Gln	Glu	Lys	Glu	Ser	Ala	115	120	125
Ser	Gly	Val	Lys	Pro	Leu	Arg	Leu	Met	Glu	Arg	Ser	Val	Phe	Ser	Asp	130	135	140
Arg	Met	Val	Phe	Val	Arg	Ala	Val	His	Glu	Ala	Lys	Trp	Met	Asn	Glu	145	150	155
Met	Glu	Ile	Ser	Ile	Tyr	Asp	Ser	Trp	Phe	Asp	Pro	Val	Val	Ser	Ser	165	170	175
Leu	Pro	Gly	Leu	Val	Pro	Asp	Gly	Phe	Ile	Tyr	Leu	Arg	Ala	Ser	Pro	180	185	190
Asp	Thr	Cys	His	Lys	Arg	Met	Met	Leu	Arg	Lys	Arg	Ala	Glu	Glu	Gly	195	200	205
Gly	Val	Ser	Leu	Lys	Tyr	Leu	Gln	Asp	Leu	His	Glu	Lys	His	Glu	Ser	210	215	220
Trp	Leu	Leu	Pro	Phe	Glu	Ser	Gly	Asn	His	Gly	Val	Leu	Ser	Val	Ser	225	230	235
Arg	Pro	Ser	Leu	His	Met	Asp	Asn	Ser	Leu	His	Pro	Asp	Ile	Lys	Asp	245	250	255
Arg	Val	Phe	Tyr	Leu	Glu	Gly	Asn	His	Met	His	Ser	Ser	Ile	Gln	Lys	260	265	270
Val	Pro	Ala	Leu	Val	Leu	Asp	Cys	Glu	Pro	Asn	Ile	Asp	Phe	Ser	Arg	275	280	285
Asp	Ile	Glu	Ala	Lys	Thr	Gln	Tyr	Ala	Arg	Gln	Val	Ala	Glu	Phe	Phe	290	295	300

Glu Phe Val Lys Lys Lys Gln Glu Thr Ser Thr Glu Lys Ser Asn Ser
305 310 315 320

Gln Ser Pro Val Leu Leu Pro His Gln Asn Gly Gly Leu Trp Met Gly
325 330 335

Pro Ala Gly Asn His Val Pro Gly Leu Asp Leu Pro Pro Leu Asp Leu
340 345 350

Lys Ser Leu Leu Thr Arg Pro Ser Ala
355 360

<210> 5

<211> 250

<212> PRT

<213> Drosophila melanogaster

<400> 5

Met Ala Glu Ala Ala Ser Cys Ala Arg Lys Gly Thr Lys Tyr Ala Glu
1 5 10 15

Gly Thr Gln Pro Phe Thr Val Leu Ile Glu Gly Asn Ile Gly Ser Gly
20 25 30

Lys Thr Thr Tyr Leu Asn His Phe Glu Lys Tyr Lys Asn Asp Ile Cys
35 40 45

Leu Leu Thr Glu Pro Val Glu Lys Trp Arg Asn Val Asn Gly Val Asn
50 55 60

Leu Leu Glu Leu Met Tyr Lys Asp Pro Lys Lys Trp Ala Met Pro Phe
65 70 75 80

Gln Ser Tyr Ala Thr Leu Thr Met Leu Gln Ser His Thr Ala Pro Thr
85 90 95

Asn Lys Lys Leu Lys Ile Met Glu Arg Ser Ile Phe Ser Ala Arg Tyr
100 105 110

Cys Phe Val Glu Asn Met Arg Arg Asn Gly Ser Leu Glu Gln Gly Met
115 120 125

Tyr Asn Thr Leu Glu Glu Trp Tyr Lys Phe Ile Glu Glu Ser Ile His
130 135 140

Val Gln Ala Asp Leu Ile Ile Tyr Leu Arg Thr Ser Pro Glu Val Ala
145 150 155 160

Tyr Glu Arg Ile Arg Gln Arg Ala Arg Ser Glu Glu Ser Cys Val Pro
165 170 175

Leu Lys Tyr Leu Gln Glu Leu His Glu Leu His Glu Asp Trp Leu Ile
180 185 190

His Gln Arg Arg Pro Gln Ser Cys Lys Val Leu Val Leu Asp Ala Asp
195 200 205

Leu Asp Leu Glu Asn Ile Gly Thr Glu Tyr Gln Arg Ser Glu Ser Ser
210 215 220

Ile Phe Asp Ala Ile Ser Ser Asn Gln Gln Pro Ser Pro Val Pro Val
225 230 235 240

Ser Pro Ser Lys Arg Gln Arg Val Ala Arg
245 250

<210> 6
<211> 580
<212> PRT
<213> Arabidopsis thaliana

<400> 6

Met Gln Lys Ile Leu Cys Lys Ser Thr Thr Ser Ser Thr Pro Val Leu
1 5 10 15

Ser Thr Pro Val Asn Ser Leu Ala Ala Gly Phe Ile Ser Leu Gly Phe
20 25 30

Lys Thr Pro Val Lys Asn Leu Pro Pro Cys Ser Thr Thr Lys Pro Leu
35 40 45

Ser Thr Cys Phe Phe Ser Thr Ser Ala Met Pro Thr Thr Thr Ala Ser
50 55 60

Val Ser Ser Gly Gly Val Gly Phe Ser Ala Tyr Leu Gln Arg Thr Val
65 70 75 80

His Lys Pro Ala Pro Ala Ser Val Arg Phe Ser Thr Ala Gly Tyr Arg
85 90 95

Thr Cys Arg Cys Ser Ile Asp Gly Thr Asn Arg Ala Trp Val Gly Arg
100 105 110

Thr Gly Ser Trp Arg Ala Leu Phe Cys Ser Asp Ser Thr Gly Gly Leu
115 120 125

Thr Pro Val Asn Ala Thr Ala Gly Ala Val Val Glu Ser Glu Glu Glu
130 135 140

Ser Asp Gly Glu Asp Glu Asp Glu Glu Lys Asp Glu Lys Pro Val Arg
145 150 155 160

Met Asn Arg Arg Asn Arg Ser Ser Ser Gly Ser Gly Glu Phe Val Gly
165 170 175

Asn Pro Asp Leu Leu Lys Ile Pro Gly Val Gly Leu Arg Asn Gln Arg
180 185 190

Lys Leu Val Asp Asn Gly Ile Gly Asp Val Ala Glu Leu Lys Lys Leu
195 200 205

Tyr Lys Asp Lys Phe Trp Lys Ala Ser Gln Lys Met Val Asp Tyr Leu
210 215 220

Arg Ser Ser Val Gly Ile Ile His Arg Asn His Ala Glu Ser Ile Thr
225 230 235 240

Thr Phe Ile Lys Glu Ser Val Asp Asp Glu Leu Lys Asp Ser Gly Pro
245 250 255

Glu Pro Asn Leu Asn Val Lys Lys Arg Leu Thr Phe Cys Val Glu Gly
260 265 270

Asn Ile Ser Val Gly Lys Ser Thr Phe Leu Gln Arg Ile Ala Asn Glu
275 280 285

Thr Val Glu Leu Gln Asp Leu Val Glu Ile Val Pro Glu Pro Val Asp
290 300

Lys Trp Gln Asp Val Gly Pro Asp His Phe Asn Ile Leu Asp Ala Phe

305	310	315	320
Tyr Ser Glu Pro Gln Arg Tyr Ala Tyr Thr Phe Gln Asn Tyr Val Phe			
325	330	335	
Val Thr Arg Leu Met Gln Glu Lys Glu Ser Ala Ser Gly Val Lys Pro			
340	345	350	
Leu Arg Leu Met Glu Arg Ser Val Phe Ser Asp Arg Met Val Phe Val			
355	360	365	
Arg Ala Val His Glu Ala Lys Trp Met Asn Glu Met Glu Ile Ser Ile			
370	375	380	
Tyr Asp Ser Trp Phe Asp Pro Val Val Ser Ser Leu Pro Gly Leu Val			
385	390	395	400
Pro Asp Gly Phe Ile Tyr Leu Arg Ala Ser Pro Asp Thr Cys His Lys			
405	410	415	
Arg Met Met Leu Arg Lys Arg Ala Glu Glu Gly Gly Val Ser Leu Lys			
420	425	430	
Tyr Leu Gln Asp Leu His Glu Lys His Glu Ser Trp Leu Leu Pro Phe			
435	440	445	
Glu Ser Gly Asn His Gly Val Leu Ser Val Ser Arg Pro Ser Leu His			
450	455	460	
Met Asp Asn Ser Leu His Pro Asp Ile Lys Asp Arg Val Phe Tyr Leu			
465	470	475	480
Glu Gly Asn His Met His Ser Ser Ile Gln Lys Val Pro Ala Leu Val			
485	490	495	
Leu Asp Cys Glu Pro Asn Ile Asp Phe Ser Arg Asp Ile Glu Ala Lys			
500	505	510	
Thr Gln Tyr Ala Arg Gln Val Ala Glu Phe Phe Glu Phe Val Lys Lys			